SGA Task Force: Achieving Interoperability for Public Safety Communications

Replies of Verizon Communications and Verizon Wireless
March 26, 2007

I. Introduction and Summary

Verizon Communications and Verizon Wireless (collectively "Verizon") respectfully submit their replies to comments filed with the Southern Governors' Association ("SGA") on March 16, 2007 regarding the SGA's efforts to achieve interoperability for public safety communications. We are encouraged by the broad consensus regarding many of the issues raised by the SGA. In particular, we note that there is agreement that the inability of first responders from various jurisdictions to communicate effectively with one another is a significant problem of national concern, and that technologies are available today to address this problem in a prompt and cost effective manner. We urge the SGA to support efforts to address this issue as quickly and effectively as possible.

There is also broad consensus that access to advanced capabilities such as high-speed data and other broadband applications would provide substantial assistance to first responders in their efforts to protect and serve the public, and that the use of commercial off-the-shelf technologies that are already widely deployed within the commercial sector can provide these capabilities while yielding considerable benefits to the public safety community. However, there is disagreement about how these capabilities can be, and should be, made available. Three approaches have been recommended:

- *Option 1:* Use existing commercial broadband networks that are paid for and operated by the private sector and are already widely deployed across the U.S.
- *Option 2:* Use a dedicated public safety broadband network paid for and operated by the public sector but which leverages existing commercial infrastructure to reduce costs and provides priority access to commercial networks during emergencies
- *Option 3:* Use a new commercial broadband network that is paid for and operated by the private sector but is designed and controlled by public safety

Verizon believes that both *Options 1 and 2* represent viable alternatives for providing first responders with access to advanced communications capabilities, and that a comprehensive solution will likely be comprised of some combination of these two alternatives. For the reasons described here, we do not believe that *Option 3* represents a viable alternative.

II. Solving the Voice Interoperability Problem

There is clear agreement that the lack of interoperability among mission-critical public safety communications systems today is a serious problem that deserves national attention. In our earlier comments, we urged the SGA to make solving this problem its first priority and noted that commercial technologies are available today to do so in a prompt and cost effective manner. We also noted that substantial federal funds ($1B) will be made available via the auction of

commercial spectrum, and urged the SGA to work with NTIA and the Department of Homeland Security to ensure that grants are administered in such a way as to "provide the maximum amount of interoperable communications with the minimum impact to, or replacement of, existing local radio assets."[1]

Until relatively recently, the only way to resolve the interoperability problem was to replace existing radio systems with a standardized system that uses a common frequency band. However, that solution would cost tens of billions of dollars and take decades to implement.[2] Cisco confirms that IP-based technologies are available today to solve the problem quickly and economically, noting that a nationwide IP-based solution can be implemented for roughly one-tenth the cost of radio replacement strategies.[3] It also notes that some local governments have already deployed Cisco's IP-based solution, called IPICS, and that others are considering deployment in the near future. AT&T agrees that IP-based technologies are the linchpin to any interoperable solution.[4] And, it notes that the President's National Security Telecommunications Advisory Committee has identified making existing public safety communications systems interoperable essential to effectively implementing a national communications strategy during an emergency.[5]

III. Use of Commercial Broadband Networks

In our earlier comments to the SGA, we noted that Verizon Wireless and other commercial operators have deployed advanced wireless networks throughout the country. These networks provide voice and data services to more than two hundred million people in the U.S., including hundreds of thousands of first responders that use commercial wireless data services to gain access to a variety of advanced applications which help them protect and serve the public. Comments filed by other commercial operators support our view that commercial networks provide the functionality that the SGA deems necessary to meet public safety's needs. This includes access to high-speed data applications such as bulk file transfers, web browsing, high-resolution imaging, and full motion video, interoperability across multiple work groups and jurisdictions, nationwide roaming and access to the public switched telephone network, and redundancy to ensure reliable service during a disaster.

Sprint Nextel, for example, described how its broadband commercial network, which uses the same CDMA EV-DO technology utilized by Verizon Wireless, could be used to satisfy public safety's need for high-speed data, video, and push-to-talk capability.[6] Similarly, AT&T described how its UMTS/HSDPA network could be used by public safety to provide comparable functionality, including the ability for first responders to have access to different media (voice,

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[1] Response of Verizon Communications and Verizon Wireless ("Verizon Comments"), filed Mar. 16, 2007, at 3.

[2] Recommendations of Cisco Systems, Inc. ("Cisco Comments"), filed Mar. 16, 2007, at 4.

[3] *Id* at 6.

[4] AT&T Comments, filed Mar. 16, 2007, at 3.

[5] *Id* at 4.

[6] Sprint Nextel Response to the SGA, filed Mar. 16, 2007, at 1.

video, and data) simultaneously. AT&T indicated that it demonstrated such capabilities to public safety officials in Baltimore, Maryland and in Washington, D.C. in the past year.[7]

The use of commercial networks to serve public safety's communications needs offers considerable benefits to state and local governments because it ensures that first responders have access to the most advanced capabilities available while avoiding the high capital costs associated with constructing a separate public safety network. The responses provided by Verizon, Sprint Nextel, AT&T, and SouthernLINC demonstrate that there is a strong interest among commercial operators in serving the public safety community and ensuring that future commercial networks meet public safety's diverse needs.

IV. Construction of a Dedicated Public Safety Broadband Network

While Verizon recognizes the considerable value of commercial networks in addressing public safety's needs, it also recognizes that some in the public safety community want access to a broadband network that is dedicated for their use. In our earlier comments, we described how such a network could be built in the 700 MHz public safety spectrum that was set aside by Congress. We also described how such a network could be implemented and operated in the most efficient and cost effective manner possible using commercial off-the-shelf technologies to leverage commercial economies of scale and promote efficiency and using infrastructure that is deployed by and shared with commercial operators (e.g., towers and backhaul facilities) to reduce deployment costs.

There is broad agreement among the public safety community and the wireless industry alike that any network designed to meet the broadband data and video needs of first responders must use standardized technologies that are developed for the broader commercial marketplace. Alcatel-Lucent, for example, notes how "commercial broadband technologies are uniquely suited to provide first responders with technically superior high-bandwidth data capabilities that are robustly interoperable and highly cost efficient."[8] It notes that the use of commercial broadband technologies will enable first responders to "leverage the private sector's research and development expenditures thereby spreading the cost of innovation over a user base that is orders of magnitude larger than the public safety community standing alone."[9] This constant attention to innovation and the fact that next generation commercial technologies are designed to be backwards compatible with existing technologies would ensure that the public safety community has access to advanced technology without the risk of premature obsolescence.

We recognize that there are significant costs associated with constructing public safety broadband networks. However, the national approach proposed by the FCC, which includes various non-traditional funding options, would provide a framework for minimizing those costs to the greatest extent possible. Under this approach, a single national license would be issued to a public safety licensee that would be responsible for constructing a nationwide, interoperable, broadband network. Comments filed with the SGA indicate that there is strong support for this

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[7] AT&T Comments at 4.

[8] Recommendations of Alcatel-Lucent ("ALU Comments"), filed Mar. 16, 2007, at 2.

[9] *Id* at 4.

type of national approach. APCO, for example, stated that "there are particular advantages to having a single licensee for a national broadband network," noting that "the public safety community has increasingly recognized the need for consolidation of communications systems and functions," and that the expense associated with construction of advanced wireless networks makes it difficult for small agencies to deploy such networks on their own.[10] The consolidation of individual public safety agency communications onto a single, shared public safety network and the substantial purchasing power of a national licensee would substantially reduce the cost of network deployment.

AT&T agrees, stating that the issuance of a single national license to a public safety licensee and the construction of a nationwide, broadband, public safety network would reduce the funding requirements associated with providing first responders with broadband access. It notes that "any public safety entity that utilizes this network will be able to use its equipment on a national, regional, or local basis and will be able to communicate with every other public safety entity that also utilizes the network."[11]

As we noted in our earlier comments, we believe there are significant advantages to the national approach outlined by the FCC. We envision the nationwide broadband network proposed by the Commission as a "network of networks" that provides broadband access for all communities regardless of size. States would continue to have the primary responsibility for deploying these networks because they are most familiar with the specific needs of their respective communities. However, a national licensee would facilitate coordination among the states and establish appropriate standards, while permitting customization to meet local needs.

V. A Commercial Network Controlled By Public Safety

Many recognize the substantial benefits associated with the use of commercial broadband networks – e.g., advanced technology with continued innovation, significant economies of scale, and no capital investment on the part of the public safety community. Others focus on the advantages of a dedicated public safety network – e.g., a network that is designed and controlled by public safety. Some believe it is possible to enjoy the benefits of both by deploying a commercial network that is paid for and operated by the private sector but is designed and controlled by public safety. We do not believe that such a network is financially viable.

The wireless industry invests tens of billions of dollars each year to construct, operate, and maintain advanced wireless networks. These networks are refreshed continuously with new technologies that are developed to meet the increasing needs of the marketplace – a marketplace that includes public safety customers. As a result, commercial wireless customers across the country have access to an increasing array of wireless services which provide ever-expanding capabilities and are available at prices that have declined considerably over the years. In addition to these attributes, Verizon believes that the considerable efforts that it and other commercial operators have made to expand network coverage and employ redundancy features

[10] Comments of APCO, filed Mar. 16, 2007, at 5.

[11] AT&T Comments at 3.

that "harden" commercial networks against potential natural disasters also make commercial networks significantly more suitable for public safety use than they were years ago.

However, these advancements and innovations did not occur by happenstance. They are a direct byproduct of a competitive marketplace that was established by pro-competitive policies that permit companies to make their own investment and business decisions. These policies, enacted by Congress and implemented by the FCC, provide commercial entities with substantial flexibility in choosing technologies, deploying networks, and providing services that the marketplace demands. This competitive framework has encouraged companies to invest many billions of dollars in the construction of advanced wireless networks, and U.S. consumers have received substantial benefits as a result. These investments would not have been made if wireless companies had to yield important business decisions and the control of their networks to someone else. Yielding these decisions to a government entity (or a quasi-government entity like public safety) would be akin to having the FCC dictate how commercial wireless networks should be built and operated, what services should be provided on those networks, and what rates should be charged. That type of prescriptive, regulatory model would discourage, not attract, new investment. Any company operating under such a regime would not be able to compete effectively in the marketplace with those permitted more freedom to make their own business decisions, and consequently, no company could ever be expected to agree to such terms.

Given the significant likelihood of failure, there is a substantial risk associated with relying on such a model to provide first responders with the advanced, interoperable, communications they need now and for the future. Congress and the President have provided the right path with the enactment of the Digital Television Transition and Public Safety Act of 2005, which provides the spectrum and money that public safety desperately needs. Abandoning that path for a different road, one fraught with uncertainty and risk, would forestall the progress that has been made in achieving interoperability for public safety communications. That is a risky and unnecessary detour that would only lead to a dead end.

VI. Conclusion

Verizon agrees with all those filing comments with the SGA that it is absolutely critical to ensure that first responders have access to effective and interoperable communications in times of emergency and the most advanced technological tools to protect and serve the public. We believe that the best solution for achieving those objectives is through a combination of a nationwide public safety broadband network that is designed to operate as efficiently and effectively as possible using commercial off-the-shelf technologies and commercial networks to back-up the public safety network when (or where) it is not available. We urge the SGA to support efforts by the FCC to promote a national approach using the spectrum provided to public safety and to provide the Commission with guidance on the important role of the states in that process. We also urge the SGA to work with Congress and the President to ensure that adequate funds are available now and in the future to effectively address the need for an advanced and reliable emergency communications system for use by the nation's first responders.